

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
16 December 2004 (16.12.2004)

PCT

(10) International Publication Number
WO 2004/108938 A3

(51) International Patent Classification⁷: **C12N 15/861, C07K 7/06, A61K 48/00**

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:
PCT/GB2004/002421

(22) International Filing Date: 7 June 2004 (07.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03 13132.3 6 June 2003 (06.06.2003) GB

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): **ICH PRODUCTIONS LIMITED [GB/GB]; 30 Guilford Street, London WC1N 1EH (GB)**.

Published:

- with international search report
- with amended claims

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HART, Stephen, Lewis [GB/GB]; Institute of Child Health, 30 Guilford Street, London WC1N 1EH (GB). WRITER, Michele [GB/GB]; Institute of Child Health, 30 Guilford Street, London WC1N 1EH (GB)**.

(74) Agents: **SILVESTON, Judith et al.; Abel & Imray, 20 Red Lion Street, London WC1R 4PQ (GB)**.

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

Date of publication of the international search report:

12 May 2005

Date of publication of the amended claims:

7 July 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/108938 A3

(54) Title: PEPTIDE LIGANDS OF DENDRITIC CELLS FOR NUCLEIC ACID VECTOR TARGETING

(57) Abstract: A peptide consisting of or comprising an amino acid sequence selected from a) Px¹X²X³ T [SEQ.ID.NO.:1]; b) PSX⁴S [SEQ.ID.NO. :2]; C) QX⁵X⁶X⁷Q [SEQ.ID.NO.:3]; d) SX⁸S [SEQ-ID.NO.:4], in which X¹, X² and X³, which may be the same or different, each represents an amino acid residue; X² is preferably N or L; X⁴ represents an amino acid residue, preferably N or L; X⁵ and X⁷, which may be the same or different, each represents an amino acid residue, X⁶ represents an amino acid residue having an amide side chain; and X⁸ represent an amino acid having an aliphatic side chain, which peptide binds to dendritic cells and also to other types of cells. The peptide may be used a target non-viral and viral vectors to such cells.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



PCT

(43) International Publication Date
16 December 2004 (16.12.2004)

(10) International Publication Number
WO 2004/108938 A3

(51) International Patent Classification⁷: **C12N 15/861, C07K 7/06, A61K 48/00**

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:
PCT/GB2004/002421

(22) International Filing Date: 7 June 2004 (07.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03 13132.3 6 June 2003 (06.06.2003) GB

(71) Applicant (for all designated States except US): **ICH PRODUCTIONS LIMITED [GB/GB]**; 30 Guilford Street, London WC1N 1EH (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HART, Stephen, Lewis [GB/GB]**; Institute of Child Health, 30 Guilford Street, London WC1N 1EH (GB). **WRITER, Michele [GB/GB]**; Institute of Child Health, 30 Guilford Street, London WC1N 1EH (GB).

(74) Agents: **SILVESTON, Judith et al.**; Abel & Imray, 20 Red Lion Street, London WC1R 4PQ (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

12 May 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/108938 A3

(54) Title: PEPTIDE LIGANDS OF DENDRITIC CELLS FOR NUCLEIC ACID VECTOR TARGETING

(57) Abstract: A peptide consisting of or comprising an amino acid sequence selected from a) Px¹X²X³ T [SEQ.ID.NO.:1]; b) PSX⁴S [SEQ.ID.NO. :2]; C) QX⁵X⁶X⁷Q [SEQ.ID.NO.:3]; d) SX⁸S [SEQ-ID.NO.:4], in which X¹, X² and X³, which may be the same or different, each represents an amino acid residue; X² is preferably N or L; X⁴ represents an amino acid residue, preferably N or L; X⁵ and X⁷, which may be the same or different, each represents an amino acid residue, X⁶ represents an amino acid residue having an amide side chain; and X⁸ represent an amino acid having an aliphatic side chain, which peptide binds to dendritic cells and also to other types of cells. The peptide may be used a target non-viral and viral vectors to such cells.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
16 December 2004 (16.12.2004)

PCT

(10) International Publication Number
WO 2004/108938 A2

(51) International Patent Classification⁷: C12N 15/861, C07K 7/06, A61K 48/00

[GB/GB]; Institute of Child Health, 30 Guilford Street, London WC1N 1EH (GB).

(21) International Application Number:
PCT/GB2004/002421

(74) Agents: SILVESTON, Judith et al.; Abel & Imray, 20 Red Lion Street, London WC1R 4PQ (GB).

(22) International Filing Date: 7 June 2004 (07.06.2004)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

[Continued on next page]

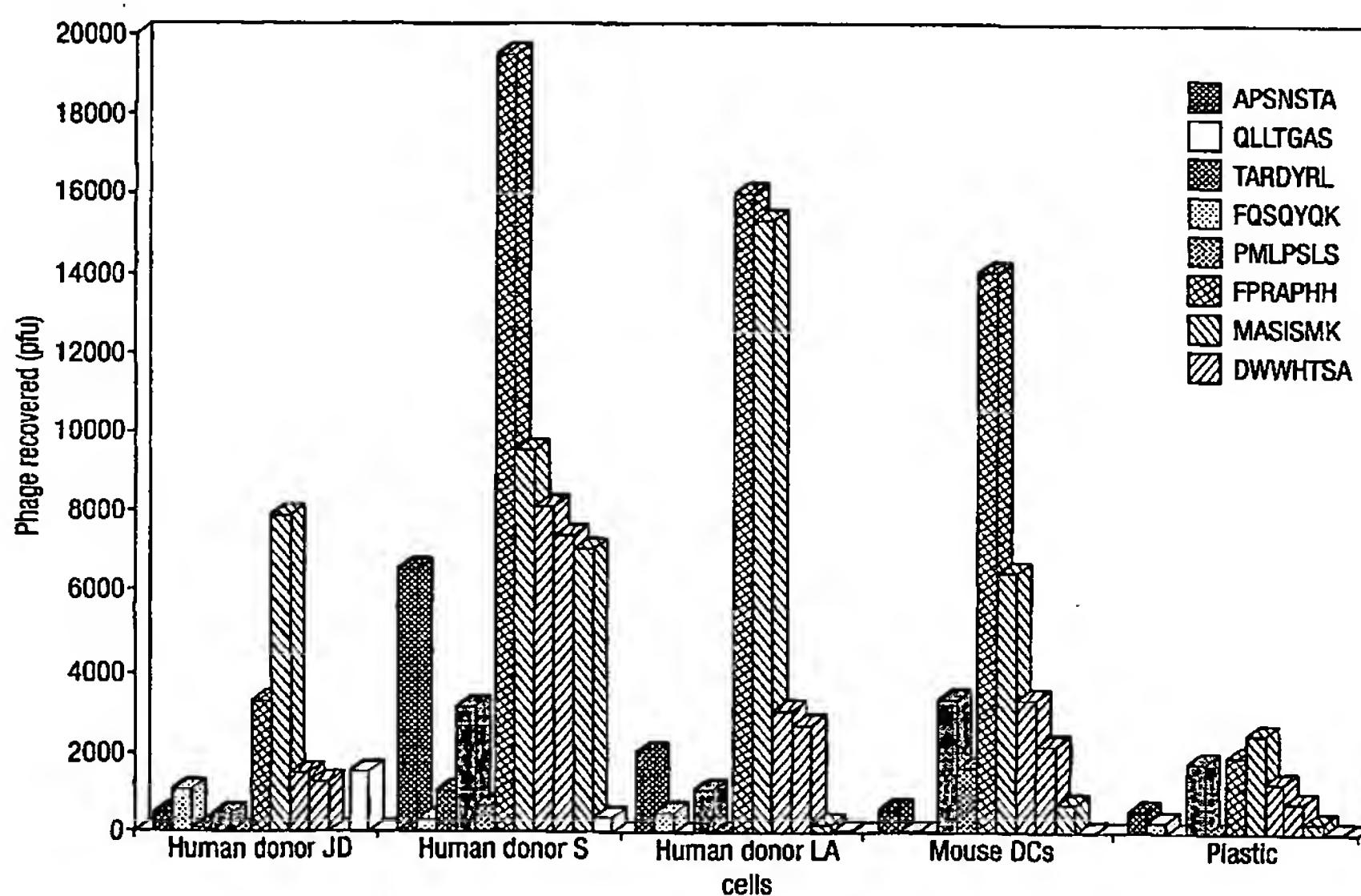
(30) Priority Data:
03 13132.3 6 June 2003 (06.06.2003) GB

(71) Applicant (for all designated States except US): ICH PRODUCTIONS LIMITED [GB/GB]; 30 Guilford Street, London WC1N 1EH (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HART, Stephen, Lewis [GB/GB]; Institute of Child Health, 30 Guilford Street, London WC1N 1EH (GB). WRITER, Michele

(54) Title: PEPTIDE LIGANDS



(57) Abstract: A peptide consisting of or comprising an amino acid sequence selected from a) Px1X2X3 T [SEQ.ID.NO.:11]; b) PSX4S [SEQ.ID.NO. :2]; c) QX5X6X7Q [SEQ.ID.NO.:3]; d) SX8S [SEQ-ID.NO.:4], in which X1, X2 and X3, which may be the same or different, each represents an amino acid residue; X4 represents an amino acid residue; and x 5 and X7, which may be the same or different, each represents an amino acid residue, X6 represents an amino acid residue having an amide side chain; and X8 represent an amino acid having an aliphatic side chain, which peptide binds to dendritic cells and also to other types of cells. The peptide may be used a target non-viral and viral vectors to such cells.

WO 2004/108938 A2



Published:

- without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.